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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/336,090	06/18/1999	FRANK KASTENHOLZ	AGM-006	7246

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EXAMINER	
EMDADI, KAMRAN	
ART UNIT	**PAPER NUMBER**
2664	

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12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/336,090	KASTENHOLZ ET AL.	
	Examiner	Art Unit	
	Kamran Emdadi	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

- Regarding claim 1, examiner apologizes for the lack of specificity outline by the claim 1 rejection in the first action, appropriate citations have been added to include all of the limitations of the amended claim 1.
- Regarding claim 2, the examiner agrees that the reference to a clock is uncertain given the citation, however the synchronization is inevitably described before the clock reference, and thus the gratuitous clock reference has been omitted from the citation.
- Regarding claim 11, the redundancy citation has been changed.
- Regarding claims 12 and 21, the examiner agrees that the redundancy exclusive-or operation is not inherent to all redundancy checks and a new obviousness rejection has been made.
- Regarding claim 17, the teachings of Cotton are indeed that of indexing for destination and channel and port information in memory, a citation has been added for clarification.
- Regarding claim 18, a citation has been made to support the rejection.
- Regarding claim 4, the systems are both data transmitting systems with time sensitive data that would require the added feature taught by Chalmers and therefore it would obvious to combine them.
- Regarding claim 22, the rejection has been updated to include priority.
- Regarding claim 23, the clumping as taught by the applicant's specification:

"More specifically, the interconnect networks can include elements for "clumping" or combining a plurality of information cells, and for transferring those clumped cells substantially simultaneously."

Is the same as the simultaneous transfer taught by Gupta.

- Regarding claims 24 and 25 the 103 rejection previously taught all of the embodiment of these two claims where the dynamic bandwidth feature although taught by Cotton is in the preamble of both these claims and is further rendered insufficient as an arguable limitation for these claims.
- Regarding claim 26, the limitation for scalable bandwidth is taught by Cotton by the total number of switches depending on the system size and the degree of non-blocking which is the same as bandwidth scalability for lowering the amount of blocking in the switch configurations is to increase the bandwidth thus bandwidth scalability (Col 4, lines65-67).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 11, 17, 18 and 20, are rejected under 35 U.S.C. 102(b) as being anticipated by Cotton (US Patent No. 5255264) in view of .

- For claim 1, Cotton teaches: a network with a switching elements containing processors used to communicate with line cards (Col 2, lines 45-50), with first 22 and 24 and second layer switches and third and fourth layer switches 26 and 28 (expanded interconnect modules) (Col 4, lines 25-33), and (Figure 1), where the number of

switches desired for communication is dependent upon non-blocking and redundancy considerations (Col 4, lines 65-67) and the data can switch from port to port or channel to channel (Col 5, lines 14-16) used to further communicate with the terminal equipment (Col 3, lines 5-10) an interconnect module having coupling means to a non-local I/O channels by means of electricity (Col 3, lines 8-12), a plurality of protocols and speeds to include the standards: T1, CEPT, and ISDN for compatibility to this system where all are known to have distinct bit rates and protocol communication (Col 2, lines 19-24).

- For claims 2 and 3, Cotton teaches of synchronization with Channel 0, where it is a portion of a data format diagram from (Fig. 2) and is used for synchronizing between expanded or local transfer elements (Col 7, lines 53-54).

- For claim 11, Cotton teaches a redundant switching capability where an alternative message separate from the original message is sent between interconnecting modules (Col 46, lines 50-55).

- For claim 17, Cotton teaches an index means for path information regarding a destination address (Col 10, lines 51-53) and (Col 9, lines 63-67).

- For claim 18 the elements of the transferring and connecting are substantially identical switches (Figure 1).

- For claim 20, Cotton teaches of a switching network with a dynamic and redundant network configuration (Col 46 lines 59-61).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton (US Patent No. 5255264) in view of Chalmers (US Patent No. 6052364), Cotton discloses all of the aspects of the claimed invention as set forth above, except a hot-swappable capability associated with the modules as claimed. Chalmers teaches that hot-swappable modules are useful for non-interruption during operation (Col 8 lines 59-60), it would have been obvious to one skilled in the art at the time the invention was made to have included hot-swappable means to eliminate system down time associated with module failures.

5. Claims 5-10, 13-16, 19, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton (US Patent No. 5255264) in view of Gupta (US Patent No. 6272151).

- Regarding claims 6, 7, 8 Although Cotton does teach that a network would have modules and channels both local and non-local for I/O operations. Cotton does not teach that a network configuration with the limitations mentioned above would have a method of: back pressure means, priority and status information, nor does Cotton teach of memory queues or cells used for data transmission and destination addresses

as a means for information transfer in a networking environment, Gupta teaches: where the buffer memory is a threshold deterministic method of controlling the flow of data packets (Col 12, lines 21-24), Gupta also teaches a method to indicate unavailability in an associated queue and a back pressure means for dealing with packet transfer for data in (Col 19, lines 19-29) it would have been obvious to have used a threshold means for determining the status of data transfer, and the capacity of a packet transfer data system.

- Regarding claim 9, Although Cotton teaches of a network with I/O characteristics as set forth above, Cotton fails to teach of I/O information being regulated by a certain priority and a certain content level, Gupta teaches the priority of packet distinction is apparent (Col 11, lines 64-67), it would have been obvious to have used different priority packets in a network environment to ensure the different degrees of importance in data transferring.

- Regarding claims 10, 13, 14, 16 Cotton discloses all the aspects of the claimed invention as set forth above, except of cells or destination addresses used as means for network data transfer as claimed, Gupta teaches of cells in transmit queues, and of priorities used on cell transfers with destination addresses included within (Col 7, lines 61-65), it would have been obvious to one skilled in the art at the time the invention was made to have used cells with priority means in correlation with a queue for data transfer and network means, in order to have prioritized data transferring in the correct order for more efficient means of network data transmission.

- Regarding claims 5, and 22-26 Cotton teaches all of the above embodiments but fails to teach about a QoS means, Gupta teaches: the QoS means (Col 5, lines 3-9) and different priority levels associated with the data transfers (Col 7, lines 60-65) and (Col 8, lines 1-5), it would have been obvious to one skilled in the art at the time the invention was made to have included bandwidth allocation for nodes entering or leaving a networking environment to ensure dynamic scaling capabilities for easy implementation and accurate load bearing measures and to include priority as a limiting factor to favor more time sensitive data.

- Regarding claim 19, Cotton fails to teach of a mode process, Gupta teaches: that mode and transport protocols use a mode selection process to determine where the transfer elements are to be utilized (Col 2, lines 64-67). It would have been obvious to have a mode process used to distinguish between the different modes of various transfer elements in order to simplify the process of mode selection in a networking environment.

- Regarding claims 15 and 23, Cotton discloses the claimed invention as set forth above except a high speed bus or parallel processing method of transferring data, Gupta teaches: the association of cells and a high speed bus (Col 5, lines 40-43), and, Gupta teaches the addition of SMN broadcasts being described as cells transmitted across buses that use parallel processing, Gupta teaches: a plurality of cells being transferred simultaneously (Col 5, lines 59-63), hence the purpose of parallel processing; it would have been obvious to have a high speed bus that uses parallel processing, for a bus to be transferring at respective high speeds it is often necessary

to have simultaneous cell transfer hence, parallel processing which includes data cells transferring simultaneously.

Drawings

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 1 contains no number 100, as the description describes Figure 1 to have in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. Claims 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton (US Patent No. 5255264) in view of Gupta (US Patent No. 6272151). Although Cotton teaches of redundancy he is silent about the process of bearing redundant data by means of an exclusive-or logic operation. The process is commonly used in hardware systems as the exclusive-or operation is to data bits what the plus sign is to a calculator and is imperative to summing the columns or rows of data for redundant bits to be comparatively exposed for error checking at a later time, This type of data redundancy is used by the CRC (Cyclical Redundancy Check(type operation which is thought be one if not the most common type of redundancy used in data network transmissions. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the use of the

exclusive-or operation in a redundancy check to add or sum bits to search for bit errors and provide redundancy for a data transferring system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kamran Emdadi whose telephone number is (703) 305-4899. The examiner can normally be reached between the hours of 8am and 5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached at (703) 305-4366. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314 for regular communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

KWANG BIN YAO
PRIMARY EXAMINER

Kamran Emdadi

06/12/2002